Physician office-laboratory links software

Labs want links, so where's the problem?

Raymond D. Aller, MD

Many laboratories are seeking more effective ways to electronically connect to their clients—physician offices, clinics, and nursing homes. Yet, for some reason, even the largest vendors of such software have relatively few installations.

CAP TODAY's first survey of physician office-laboratory links, published in 1994, introduced 10 vendors of a "new genre of software products." Eight of those companies are now defunct and the other two have gone through multiple acquisitions. New companies, such as LabDat, LabPortal, and Labtest.com, have entered the scene, but they have yet to prove their staying power.

Two years ago, the "800-pound gorilla" in this marketplace was Healtheon. With enormous market capitalization, contracts with most of the national reference laboratories, and financial backing from Microsoft, most observers predicted Healtheon would be a dominant player for years to come. Today, however, operating as WebMD, the company bears little resemblance to its former self. (WebMD missed the deadline for participating in this year's physician office-lab links survey. For more information about the company's WebMD Lab Services product [formerly the Dx product], call Kari Litz Miller at 303-590-2207.)

Another company that showed promise for several years—delivering a quality product and excellent service and amassing several satisfied, fully installed client laboratories—was Abaton.com. Even after it was acquired by McKessonHBOC, we expected that Abaton would continue to be an industry leader. But McKessonHBOC recently decided to move away from stand-alone laboratory products and the ASP model and instead concentrate on comprehensive clinical and patient record systems for integrated health care networks.

At the same time, however, some LIS vendors, such as Cerner, Sunquest, Meditech, and Triple G, are working on Internet gateway products to integrate with their laboratory information systems. With the top 10 LIS vendors providing the vast majority of the laboratory systems installed in the United States, those vendors have the potential to eventually become the dominant players in the physician office-lab links market.

Like the list of players in this field, the concept of using the Internet to establish physician-laboratory connectivity also is evolving. Many have assumed in recent years that the Internet is the only worthwhile medium for connecting physician offices and laboratories. Consistently attaining sufficient speed over such connections, however, has been problematic. We are confident that the Internet eventually will work through its speed-related issues, but in the meantime, dedicated/private networks, or even local dial-up lines, provide reasonable short-term approaches.

The following pages feature 13 products for linking the clinical lab to the physician's office. The information provided is based on vendors' responses to a questionnaire. It is crucial to speak with a vendor's clients to verify that the company provides good service and functional software. It is also worth noting that at least one company in this market, Metricom Inc., licenses its source code to provide custom installations instead of offering an off-the-shelf product. (For more information about Metricom's services, call 508-746-8407.)

Dr. Aller is vice president for medical affairs and informatics at MDS Laboratory Services (U.S.). He can be reached at raller@mdslabsus.com.

Part 1 of 7	Atlas Development Corp. Lori Casas lcasas@atlaslabworks.com 6351 Owensmouth Ave., Ste. 101 Woodland Hills, CA 91367 818-340-7080/800-333-0070 www.atlaslabworks.com
See accompanying article	
Name of POLL software/system	Atlas LabWorks and Atlas WebLabWorks
First/most recent installation of software/system	1995/2001 (LabWorks), 2000/2001 (WebLabWorks)
No. of host lab contracts signed by 2/1/01 but not yet operational	4 (1 LabWorks/3 WebLabWorks)
No. of contracts signed between 2/1/00 and 2/1/01	8 (6 LabWorks/2 WebLabWorks)
Where software was developed	USA
No. of host or central labs using software clinically/No. of satellite locations installed	19/1,033
No. of host labs that electronically transfer orders from PO* to LIS	19
Staff to develop-install-support-other** in entire firm/in POLL division	14-2-4-10/9-2-2-8
Hardware (in addition to LIS) required in central lab?/Type and operating system	yes (if not ASP)/Intel Pentium/Windows 2000, any UNIX, Linux
Specialized hardware in central lab facility	none
Software programming language, other tools or products used or integrated	Caché, SQL, Visual Basic, Crystal Reports, others
Database of patient orders and results housed outside client lab or PO?	no—if client chooses to host within its own facility
Hardware type and operating system used in PO	LabWorks: Pentium/Windows NT workstation; WebLabWorks: Intel/Windows 95, 98, NT, IE4
Specialized hardware used in PO	none
Programming language, other tools or products used or integrated in PO	Visual Basic, Caché, SQL, Crystal Reports, Java Script, IE4 (WebLabWorks)
Average time to install, build files, train office staff in a typical PO	2 hrs
LIS, HIS, and other interfaces	Antrim, Rubicon, CCA, Triple G, Sunquest, Cortex, Cerner, Atlas Care
Software modifications or modules required on host LIS to interface	yes (HL7 orders and results interfaces)
POPMS*** used to transfer patient demographics/billing info. to POLL system	Medical Manager, Medic, Wismer Martin, Horizon, PACE, DISC, others
Can one PO simultaneously support or interface to many host labs?	yes
Test directory on PO system?/PO system can store many labs' directories at once?	yes (LabWorks only)/yes
How results are returned to PO	block of text or individually segmented fields
Data interface standards supported/System supports LOINC?	HL7, custom when required, XML/yes
System architecture or functionality	thick client PC, thin proprietary client, standard Web browsers
Patient order and result database maintained on local PC?	yes (thick client)
Online connections between PO and central or host system	virtual private network, dial-up telephone modem, public Internet connection, leased line, network
Complete ASP solution for POLL software?	yes
Method of charging for ASP service	fixed fee or transaction-based (client's option)
Client software required	browser-based
ASP information conduit	operates over Internet
Client contracts supported from data center not operated by client	2
How data center is operated	by third-party (IS West)
Features (listed as percentage of live installs or whether or not it's available)	
• Order entry	
- Medicare compliance checking using carrier-specific rules	100%
- Advanced beneficiary notice printed if medical necessity criteria not met	100%
- Local medical review policies can be viewed	100%
- Automatic routing of an order to different labs according to payer rules	10%
- Printing of lab's requisitions/Printing of requisitions for other lab providers	100%/10%
- Duplicate order checking/Physician office-specific panels	100%/10%
• Electronic order entry (from PO to host)	100%
- Transfer of patient demographics/insurance	100%
- Automatic handling of scheduled/standing orders	60%
- Automatic routing of orders to hospital/commercial labs depending on payer rules	available but not installed
• Bar-code collection label printing	100%
• Result receipt	
- Stored as a block of text	available but not installed
- All items (result, reference range, units) stored as individual data elements	100%
- Automatic parsing of report pages to extract results	not available
- Inquiry mode that allows PO to check status of specimens with host	available but not installed
• Reporting	
- In exact format received from host lab/Cumulative	100%/50%
- Integration of host and PO lab results	available but not installed
- Display of new results for patient and/or clinic	100%
- Remote access available to on-call physicians	10%
• User-defined rule-based system and alerts in PO module	100%
• Electronic transfer of data to another PO	20%
• PO orders supplies from host lab/Specimen pickup or courier requests to host lab	10%/10%
• Other functionality	
- Billing/collections/accounts receivable	not available
- Electronic claims transfer/Electronic medical record	not available/available but not installed
- Interfaces to PO lab instruments/Interfaces to billing systems	available but not installed/2%
Length of time results are maintained online in PO system	no practical limit
Length of time copy of original report can be reproduced by system	no practical limit
Data from system put in electronic archive?/Index to archive maintained online?	not applicable/not applicable
System priced on a cost-per-transaction basis?	no (LabWorks), yes (WebLabWorks)
Cost (hardware/one-time software license fee/mo. lic. fee/implement. fee/mo. maintenance)	
• Smallest system for host lab:largest system for host lab	—
• Smallest system for PO:largest system for PO	—
Extra license fee due for each additional PO?/For increments of Nos. of POs?	yes/no
Extra license fee for each addt'l workstation at PO?/Fee based on No. of phys. of record?	yes/no
Distinguishing features (supplied by vendor)	• mix-and-match Web and Windows • cost-efficient scalability • easily customized to client specifications

*PO=physician's office
**other=sales, marketing, administration, other company functions
***POPMS=physician office practice management systems

Tabulation does not represent an endorsement by the College of American Pathologists

Survey editor: Raymond Aller, MD

Physician office-laboratory links software

Part 2 of 7 See accompanying article on page 68	Axolotl Corp. Nicole Roth nroth@axolotl.com 800 El Camino Real West, Ste. 150 Mountain View, CA 94040 888-296-5685 www.axolotl.com	Cerner Corp. Julie Hull 2800 Rockcreek Parkway Kansas City, MO 64117 816-201-1725 www.cerner.com
Name of POLL software/system	Elysium	ePathLink
First/most recent installation of software/system	1998/1998	1997/2001
No. of host lab contracts signed by 2/1/01 but not yet operational	3	1
No. of contracts signed between 2/1/00 and 2/1/01	7	10
Where software was developed	USA	USA
No. of host or central labs using software clinically/No. of satellite locations installed	31/2,338	11/70
No. of host labs that electronically transfer orders from PO* to LIS	5	9
Staff to develop-install-support-other** in entire firm/in POLL division	12-10-10-77 (total)	961-1,211-186-321/6-5-10-0
Hardware (in addition to LIS) required in central lab?/Type and operating system	yes/Pentium PC, Windows NT	yes/dedicated Web server, Windows NT
Specialized hardware in central lab facility	n/a	—
Software programming language, other tools or products used or integrated	IBM Domino, TSI Soft Mercator	Microsoft IE 4.0 and above
Database of patient orders and results housed outside client lab or PO?	client can choose external hosting or to host within its own facility	yes—always
Hardware type and operating system used in PO	PC, any browser	IBM-compatible PC w/ Windows NT
Specialized hardware used in PO	none	none
Programming language, other tools or products used or integrated in PO	HTML, Java	Java, Visual Basic/IE 4.0/SSL
Average time to install, build files, train office staff in a typical PO	1 hr	24 hrs
LIS, HIS, and other interfaces	SMS, McKessonHBOC, Antrim, Cerner, Sunquest, others	Cerner's PathNet LIS, others
Software modifications or modules required on host LIS to interface	no	no
POPMS*** used to transfer patient demographics/billing info. to POLL system	Medrium.com	major vendors
Can one PO simultaneously support or interface to many host labs?	yes	no
Test directory on PO system?/PO system can store many labs' directories at once?	available centrally from browser interface/yes	no (available via real-time connection to host lab)/yes
How results are returned to PO	individually segmented fields	block of text or individually segmented fields
Data interface standards supported/System supports LOINC?	HL7, custom when required/yes	HL7/yes
System architecture or functionality	standard Web browsers	thin proprietary client, standard Web browsers
Patient order and result database maintained on local PC?	no	no
Online connections between PO and central or host system	virtual private network, dial-up telephone modem, public Internet connection, leased line, satellite	virtual private network, dial-up telephone modem, public Internet connection, leased line, dedicated ISDN
Complete ASP solution for POLL software?	yes	yes
Method of charging for ASP service	subscription	fixed fee or transaction-based
Client software required	browser-based	browser-based
ASP information conduit	operates over Internet	operates over Internet or uses private, dedicated circuit
Client contracts supported from data center not operated by client	6,000 users	6
How data center is operated	by vendor	by vendor
Features (listed as percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	100%	75%
- Advanced beneficiary notice printed if medical necessity criteria not met	100%	75%
- Local medical review policies can be viewed	100%	100%
- Automatic routing of an order to different labs according to payer rules	not available	available but not installed
- Printing of lab's requisitions/Printing of requisitions for other lab providers	100%/100%	100%/available in Oct. 2001
- Duplicate order checking/Physician office-specific panels	not available/100%	100%/100%
• Electronic order entry (from PO to host)	100%	100%
- Transfer of patient demographics/insurance	100%	100%
- Automatic handling of scheduled/standing orders	not available	available in July 2001
- Automatic routing of orders to hospital/commercial labs depending on payer rules	not available	available but not installed
• Bar-code collection label printing	available but not installed	100%
• Result receipt		
- Stored as a block of text	not available	100%
- All items (result, reference range, units) stored as individual data elements	100%	100%
- Automatic parsing of report pages to extract results	available but not installed	100%
- Inquiry mode that allows PO to check status of specimens with host	not available	100%
• Reporting		
- In exact format received from host lab/Cumulative	not available/50%	100%/100%
- Integration of host and PO lab results	100%	not available
- Display of new results for patient and/or clinic	100%	not available
- Remote access available to on-call physicians	100%	100%
• User-defined rule-based system and alerts in PO module	100%	50%
• Electronic transfer of data to another PO	100%	70%
• PO orders supplies from host lab/Specimen pickup or courier requests to host lab	available but not installed/not available	100%/100%
• Other functionality		
- Billing/collections/accounts receivable	available but not installed	not available
- Electronic claims transfer/Electronic medical record	installed/30%	not available/available but not installed
- Interfaces to PO lab instruments/Interfaces to billing systems	available in 2002/available but not installed	not available/not available
Length of time results are maintained online in PO system	no limit	n/a
Length of time copy of original report can be reproduced by system	until purged	indefinitely
Data from system put in electronic archive?/Index to archive maintained online?	yes/no	—*
System priced on a cost-per-transaction basis?	no	—
Cost (hardware/one-time software license fee/mo. lic. fee/implement. fee/mo. maintenance)		
• Smallest system for host lab:largest system for host lab	—	—
• Smallest system for PO:largest system for PO	$.4k/na/$.030k*/incl./incl.:—/na/$.030k*/incl./incl.	—
Extra license fee due for each additional PO?/For increments of Nos. of POs?	no/no	no/no
Extra license fee for each addt'l workstation at PO?/Fee based on No. of phys. of record?	yes/no	no/no
Distinguishing features (supplied by vendor)	• Internet-based for scalability and ease of use • built on nonproprietary software for quick development	• totally integrated procedure catalog with LIS/POLL solution • secure and authorized access anytime and anywhere • integrated compliance features with LMRP content
*PO=physician's office **other=sales, marketing, administration, other company functions ***POPMS=physician office practice management systems	*starting price per user per month	*PathNet host function

Tabulation does not represent an endorsement by the College of American Pathologists

Physician office-laboratory links software

Part 3 of 7 *See accompanying article on page 68*	Clinical Information Systems Bobby I. Woolley 18805 Willamette Drive West Linn, OR 97068 503-699-9745/800-869-0680 www.cislab.com	Cybear Inc. Ron Goff 5000 T-Rex Ave., #200 Boca Raton, FL 33431 561-999-3500 www.cybear.com
Name of POLL software/system	PLN (physician-laboratory network)	Dr. Chart Web
First/most recent installation of software/system	1997/2001	1999/2001
No. of host lab contracts signed by 2/1/01 but not yet operational	1	—
No. of contracts signed between 2/1/00 and 2/1/01	5	6
Where software was developed	USA	USA
No. of host or central labs using software clinically/No. of satellite locations installed	9/32	20/not available
No. of host labs that electronically transfer orders from PO* to LIS	1	7
Staff to develop-install-support-other** in entire firm/in POLL division	7–7–7–1 (total)	28-16-12-39/8-1-1-7
Hardware (in addition to LIS) required in central lab?/Type and operating system	no/—	yes/Windows NT
Specialized hardware in central lab facility	—	none
Software programming language, other tools or products used or integrated	—	VCH, Visual Basic, MS SQL 7.0
Database of patient orders and results housed outside client lab or PO?	never	yes—if client chooses external hosting
Hardware type and operating system used in PO	PC, Windows 98	any PC able to support IE browser
Specialized hardware used in PO	—	—
Programming language, other tools or products used or integrated in PO	Delphi, SQL, RDBMS, Visual Basic	Adobe Reader plug-in
Average time to install, build files, train office staff in a typical PO	2 hrs	1 hr
LIS, HIS, and other interfaces	CIS lab	Citation, Sunquest, McKessonHBOC/Pathway, Triple G, SMS, Ulticare, CoPath, others
Software modifications or modules required on host LIS to interface	yes (PLN support module required)	no
POPMS*** used to transfer patient demographics/billing info. to POLL system	Medical Manager, Dairyland, McKessonHBOC	Medical Manager, Medic, IDX, Med-Elite, Wismer Martin, others
Can one PO simultaneously support or interface to many host labs?	no	yes
Test directory on PO system can store many labs' directories at once?/PO system can store many labs' directories at once?	yes/no	no/yes
How results are returned to PO	individually segmented fields	individually segmented fields
Data interface standards supported/System supports LOINC?	ASTM 1238, HL7, custom when required/yes	ASTM 1238, HL7, ANSI X12, custom when required/yes
System architecture or functionality	thick client PC, modified and standard Web browsers	thin proprietary client, standard Web browsers
Patient order and result database maintained on local PC?	yes	no
Online connections between PO and central or host system	virtual private network, dial-up telephone modem, public Internet connection, leased line	virtual private network, dial-up telephone modem, public Internet connection, leased line
Complete ASP solution for POLL software?	yes	yes
Method of charging for ASP service	fixed fee or monthly rental	fixed fee
Client software required	browser-based	browser-based
ASP information conduit	operates over Internet	operates over Internet
Client contracts supported from data center not operated by client	6	—
How data center is operated	by vendor	by vendor
Features (listed as percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	50%	20%
- Advanced beneficiary notice printed if medical necessity criteria not met	50%	100%
- Local medical review policies can be viewed	33%	100%
- Automatic routing of an order to different labs according to payer rules	not available	100%
- Printing of lab's requisitions/Printing of requisitions for other lab providers	100%/not available	100%/100%
- Duplicate order checking/Physician office-specific panels	33%/33%	100%/100%
• Electronic order entry (from PO to host)	—	20%
- Transfer of patient demographics/insurance	100%	60%
- Automatic handling of scheduled/standing orders	100%	20%
- Automatic routing of orders to hospital/commercial labs depending on payer rules	50%	20%
• Bar-code collection label printing	33%	50%
• Result receipt		
- Stored as a block of text	not available	available but not installed
- All items (result, reference range, units) stored as individual data elements	100%	100%
- Automatic parsing of report pages to extract results	not available	not available
- Inquiry mode that allows PO to check status of specimens with host	100%	20%
• Reporting		
- In exact format received from host lab/Cumulative	100%/100%	100%/100%
- Integration of host and PO lab results	100%	not available
- Display of new results for patient and/or clinic	100%	100%
- Remote access available to on-call physicians	100%	100%
• User-defined rule-based system and alerts in PO module	not available	not available
• Electronic transfer of data to another PO	100%	100%
• PO orders supplies from host lab/Specimen pickup or courier requests to host lab	100%/100%	not available/not available
• Other functionality		
- Billing/collections/accounts receivable	not available	not available
- Electronic claims transfer/Electronic medical record	not available/not available	not available/not available
- Interfaces to PO lab instruments/Interfaces to billing systems	10%/10%	not available/20%
Length of time results are maintained online in PO system	five years	determined by client
Length of time copy of original report can be reproduced by system	five years	determined by client
Data from system put in electronic archive?/Index to archive maintained online?	yes/yes	no/no
System priced on a cost-per-transaction basis?	no	no
Cost (hardware/one-time software license fee/mo. lic. fee/implement. fee/mo. maintenance)		
• Smallest system for host lab:largest system for host lab	$1k/$.5k/—/—/$.1k:$40k/$15k/—/—/$.4k	$20k/$50k/$5k/incl./incl.:$175k/$750k/—/incl./18%
• Smallest system for PO:largest system for PO	$1k/$.5k/—/—/—:$4k/$2k/—/—/$.1k	none
Extra license fee due for each additional PO?/For increments of Nos. of POs?	yes/yes	no/yes
Extra license fee for each addt'l workstation at PO?/Fee based on No. of phys. of record?	yes/no	no/no
Distinguishing features (supplied by vendor)	• functional, user-friendly, inexpensive	• large installed base • third-generation Internet products • multi-lab and multi-dictionary design

*PO=physician's office
**other=sales, marketing, administration, other company functions
***POPMS=physician office practice management systems

Dr. Chart Web is a product of AHT Corp., which has been purchased by Cybear Inc.

Tabulation does not represent an endorsement by the College of American Pathologists

Physician office-laboratory links software

Part 4 of 7	LabDat Inc. **Gary Burkhartsmeier** garyb@labdat.com **644 E. Central Ave., 16th floor** **Glendale, CA 91203** **800-616-8202** www.labdat.com	LabPortal Inc. **Alicia Saia** **14151 Newbrook Drive, Ste. 200** **Chantilly, VA 20151** **703-480-0397** www.labportal.com
See accompanying article on page 68		
Name of POLL software/system	**LabDat.com**	**LabPortal**
First/most recent installation of software/system	**2000/2001**	**2001/2001**
No. of host lab contracts signed by 2/1/01 but not yet operational	**0**	**6**
No. of contracts signed between 2/1/00 and 2/1/01	**2**	**6**
Where software was developed	**USA**	**USA**
No. of host or central labs using software clinically/No. of satellite locations installed	**2/310**	**3/3**
No. of host labs that electronically transfer orders from PO* to LIS	**2**	**2**
Staff to develop-install-support-other in entire firm/in POLL division**	**3-2-5-0 (total)**	**16-3-3-11.5 (total)**
Hardware (in addition to LIS) required in central lab?/Type and operating system	no/—	no/—
Specialized hardware in central lab facility	—	—
Software programming language, other tools or products used or integrated	—	—
Database of patient orders and results housed outside client lab or PO?	always	client can choose external hosting or to host within its own facility
Hardware type and operating system used in PO	IBM-compatible PC or Mac/Windows 95, 98, 2000	Pentium PC, Windows 95, 98, 2000, NT
Specialized hardware used in PO	none	none
Programming language, other tools or products used or integrated in PO	none	IE browser 5.0+ with 128-bit encryption
Average time to install, build files, train office staff in a typical PO	1 hr	1 hr
LIS, HIS, and other interfaces	**Clinical Information Systems**	**Sunquest, Cerner, proprietary/homegrown systems**
Software modifications or modules required on host LIS to interface	yes (network order receipt)	no
POPMS* used to transfer patient demographics/billing info. to POLL system**	**Medical Manager**	**finalizing agreement for POPMS interface tool**
Can one PO simultaneously support or interface to many host labs?	yes	yes
Test directory on PO system?/PO system can store many labs' directories at once?	no/yes	no/no (available through system)
How results are returned to PO	individually segmented fields	block of text or individually segmented fields
Data interface standards supported/System supports LOINC?	**ASTM 1238, HL7, ANSI X12, custom when required/yes**	**ASTM 1238, HL7, ANSI X12, custom when required/yes**
System architecture or functionality	thick client PC, thin proprietary client, modified and standard Web browsers	standard Web browsers
Patient order and result database maintained on local PC?	no	no
Online connections between PO and central or host system	public Internet connection	virtual private network, dial-up telephone modem, public Internet connection, leased line
Complete ASP solution for POLL software?	yes	yes
Method of charging for ASP service	transaction-based or subscription	monthly fixed fee
Client software required	browser-based	browser-based
ASP information conduit	operates over Internet	operates over Internet
Client contracts supported from data center not operated by client	—	5
How data center is operated	by vendor	by vendor
Features (listed as percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	100%	100%
- Advanced beneficiary notice printed if medical necessity criteria not met	100%	100%
- Local medical review policies can be viewed	not available	100%
- Automatic routing of an order to different labs according to payer rules	100%	100%
- Printing of lab's requisitions/Printing of requisitions for other lab providers	100%/100%	100%/100%
- Duplicate order checking/Physician office-specific panels	100%/100%	100%/100%
• Electronic order entry (from PO to host)	100%	100%
- Transfer of patient demographics/insurance	100%	100%
- Automatic handling of scheduled/standing orders	100%	100%
- Automatic routing of orders to hospital/commercial labs depending on payer rules	100%	100%
• Bar-code collection label printing	100%	100%
• Result receipt		
- Stored as a block of text	not available	100%
- All items (result, reference range, units) stored as individual data elements	100%	100%
- Automatic parsing of report pages to extract results	100%	not available
- Inquiry mode that allows PO to check status of specimens with host	100%	not available
• Reporting		
- In exact format received from host lab/Cumulative	100%/100%	100%/100%
- Integration of host and PO lab results	100%	not available
- Display of new results for patient and/or clinic	100%	100%
- Remote access available to on-call physicians	100%	100%
• User-defined rule-based system and alerts in PO module	available in Oct. 2001	100%
• Electronic transfer of data to another PO	100%	100%
• PO orders supplies from host lab/Specimen pickup or courier requests to host lab	available in July 2001/100%	available 4th qtr. 2001/available 4th qtr. 2001
• Other functionality		
- Billing/collections/accounts receivable	—	not available
- Electronic claims transfer/Electronic medical record	not available/not available	not available/not available
- Interfaces to PO lab instruments/Interfaces to billing systems	not available/not available	not available/not available
Length of time results are maintained online in PO system	2 yrs	15 mo. standard (option for longer)
Length of time copy of original report can be reproduced by system		15 mo. standard (option for longer)
Data from system put in electronic archive?/Index to archive maintained online?	yes/yes	yes/yes
System priced on a cost-per-transaction basis?	yes (~50¢ per transaction)	no
Cost (hardware/one-time software license fee/mo. lic. fee/implement. fee/mo. maintenance)		
• Smallest system for host lab:largest system for host lab	—	—
• Smallest system for PO:largest system for PO	—/—/$.05k/$0/$0:—/—/$.05k/$0/$0	no cost to PO
Extra license fee due for each additional PO?/For increments of Nos. of POs?	yes/no	no/yes
Extra license fee for each addt'l workstation at PO?/Fee based on No. of phys. of record?	no/yes	no/no
Distinguishing features (supplied by vendor)		• secure, high-performance Web-based technology • highly customizable to meet client-specific needs • lab-specific application developed by laboratorians for laboratorians

*PO=physician's office
**other=sales, marketing, administration, other company functions
***POPMS=physician office practice management systems

Tabulation does not represent an endorsement by the College of American Pathologists

Physician office-laboratory links software

Part 5 of 7 *See accompanying article on page 68*	Labtest.com Inc. **William Seay** wseay@labtest.com 140 Greenwood Ave. Midland Park, NJ 07432 201-447-9991 www.labtest.com	Labtest.com Inc. **William Seay** wseay@labtest.com 140 Greenwood Ave. Midland Park, NJ 07432 201-447-9991 www.labtest.com
Name of POLL software/system	**Concierge**	**Valet Desktop**
First/most recent installation of software/system **No. of host lab contracts signed by 2/1/01 but not yet operational** **No. of contracts signed between 2/1/00 and 2/1/01** **Where software was developed**	2000/2001 4 pilot sites 2 USA	2001/2001 0 0 USA
No. of host or central labs using software clinically/No. of satellite locations installed **No. of host labs that electronically transfer orders from PO* to LIS** **Staff to develop-install-support-other** in entire firm/in POLL division**	3/1,000 physicians 2 4-1-2-3 (total)	1/10 offices 1 4-1-2-3 (total)
Hardware (in addition to LIS) required in central lab?/Type and operating system **Specialized hardware in central lab facility** **Software programming language, other tools or products used or integrated** **Database of patient orders and results housed outside client lab or PO?**	no/— — — yes—if client chooses external hosting	no/— — — yes—if client chooses external hosting
Hardware type and operating system used in PO **Specialized hardware used in PO** **Programming language, other tools or products used or integrated in PO** **Average time to install, build files, train office staff in a typical PO**	Internet/Web browser (IE, Netscape) — — 0–1 hr	Windows 95, 98, 2000, NT, ME — Java 1 hr
LIS, HIS, and other interfaces **Software modifications or modules required on host LIS to interface**	Antrim/Sunquest no	Antrim/Sunquest no
POPMS* used to transfer patient demographics/billing info. to POLL system**	none	Medic, MediBase, Datamedic, Alphatex, Medical Manager, many others
Can one PO simultaneously support or interface to many host labs? **Test directory on PO system?/PO system can store many labs' directories at once?** **How results are returned to PO**	yes no/yes individually segmented fields	yes yes/yes individually segmented fields
Data interface standards supported/System supports LOINC? **System architecture or functionality**	ASTM 1238, HL7, ANSI X12, custom when required, XML/yes standard Web browsers	ASTM 1238, HL7, ANSI X12, custom when required, XML/yes thin proprietary client
Patient order and result database maintained on local PC? **Online connections between PO and central or host system**	no virtual private network, dial-up telephone modem, public Internet connection, leased line, DSL	yes virtual private network, dial-up telephone modem, public Internet connection, leased line, DSL
Complete ASP solution for POLL software? **Method of charging for ASP service** **Client software required** **ASP information conduit** **Client contracts supported from data center not operated by client** **How data center is operated**	yes subscription browser-based operates over Internet 1 by vendor	yes subscription requires software be installed on client PC operates over Internet 1 by vendor

Features (listed as percentage of live installs or whether or not it's available)
• Order entry
  - Medicare compliance checking using carrier-specific rules
  - Advanced beneficiary notice printed if medical necessity criteria not met
  - Local medical review policies can be viewed
  - Automatic routing of an order to different labs according to payer rules
  - Printing of lab's requisitions/Printing of requisitions for other lab providers
  - Duplicate order checking/Physician office-specific panels
• Electronic order entry (from PO to host)
  - Transfer of patient demographics/insurance
  - Automatic handling of scheduled/standing orders
  - Automatic routing of orders to hospital/commercial labs depending on payer rules
• Bar-code collection label printing
• Result receipt
  - Stored as a block of text
  - All items (result, reference range, units) stored as individual data elements
  - Automatic parsing of report pages to extract results
  - Inquiry mode that allows PO to check status of specimens with host
• Reporting
  - In exact format received from host lab/Cumulative
  - Integration of host and PO lab results
  - Display of new results for patient and/or clinic
  - Remote access available to on-call physicians
• User-defined rule-based system and alerts in PO module
• Electronic transfer of data to another PO
• PO orders supplies from host lab/Specimen pickup or courier requests to host lab
• Other functionality
  - Billing/collections/accounts receivable
  - Electronic claims transfer/Electronic medical record
  - Interfaces to PO lab instruments/Interfaces to billing systems
	
	70%
	70%
	available but not installed
	70%
	70%/70%
	70%/70%
	70%
	70%
	available but not installed
	70%
	70%
	
	100%
	100%
	100%
	available but not installed
	
	100%/100%
	available in Sept. 2001
	100%
	100%
	100%
	available but not installed
	100%/available but not installed
	
	100%
	100%/100%
	available but not installed/available in Sept. 2001
		
		100%
		100%
		available but not installed
		100%
		100%/100%
		100%/100%
		—
		100%
		available but not installed
		100%
		100%
		
		100%
		100%
		100%
		available but not installed
		
		100%/100%
		available in Sept. 2001
		100%
		100%
		100%
		available but not installed
		100%/available but not installed
		
		100%
		100%/100%
		available but not installed/available in Sept. 2001

Length of time results are maintained online in PO system **Length of time copy of original report can be reproduced by system** **Data from system put in electronic archive?/Index to archive maintained online?**	indefinitely indefinitely n/a	indefinitely indefinitely n/a
System priced on a cost-per-transaction basis? **Cost (hardware/one-time software license fee/mo. lic. fee/implement. fee/mo. maintenance)** **• Smallest system for host lab:largest system for host lab** **• Smallest system for PO:largest system for PO** **Extra license fee due for each additional PO?/For increments of Nos. of POs?** **Extra license fee for each addt'l workstation at PO?/Fee based on No. of phys. of record?**	no $0/$0/$1k/$0/$0:$80k/$60k/$2.5k/$0/$2.5k $0/$0/$.025k/$0/$0:$.0/$0/$.065k/$0/$0k* yes/no no/yes	no $0/$0/$1k/$0/$0:$0/$0/$1k/$0/$0 $0/$0/$.04k/$0/$0:$0/$0/$.04k/$0/$0 yes/no no/yes
Distinguishing features (supplied by vendor) *PO=physician's office **other=sales, marketing, administration, other company functions ***POPMS=physician office practice management systems	• no hidden charges to doctor • can route/redirect individual tests at ordering based on insurance rules • filtering and sorting of result data to facilitate patient population studies * cost to lab, not PO	• no hidden charges to doctor—lab pays for software • software performs scheduled or manual "synch" to the Internet server, uploads orders, downloads results • no full-time Internet connection required

Tabulation does not represent an endorsement by the College of American Pathologists

Physician office-laboratory links software

Part 6 of 7 *See accompanying article on page 68*	Netsteps Inc. **Alan Gornik**　alan.gornik@netsteps.net 1 Pierce Place, Ste. 500E Itasca, IL 60143 630-250-3045　www.netsteps.net	ProxyMed Inc. **Eric Arnson**　eric.arnson@keycom.com 2633 Grant Line Rd., P.O. Box 109 New Albany, IN 47151-0109 800-937-3865 ext. 202　www.proxymed.com/www.keycom.com
Name of POLL software/system	**Laboratory Connectivity Suite**	**ProxyMed.com**
First/most recent installation of software/system **No. of host lab contracts signed by 2/1/01 but not yet operational** **No. of contracts signed between 2/1/00 and 2/1/01** **Where software was developed**	1999/2001 2 2 USA	1992/2001 10 23 USA
No. of host or central labs using software clinically/No. of satellite locations installed **No. of host labs that electronically transfer orders from PO* to LIS** **Staff to develop-install-support-other** in entire firm/in POLL division**	12/20 0 —	13/113 0 40-20-10-210/25-n/a-5-n/a
Hardware (in addition to LIS) required in central lab?/Type and operating system **Specialized hardware in central lab facility** **Software programming language, other tools or products used or integrated** **Database of patient orders and results housed outside client lab or PO?**	yes/Net server (NT or UNIX) — Java, RDBMS yes—if client chooses external hosting	no/— — — always
Hardware type and operating system used in PO **Specialized hardware used in PO** **Programming language, other tools or products used or integrated in PO** **Average time to install, build files, train office staff in a typical PO**	PC — Web browser 1 hr	— — — 1 hr
LIS, HIS, and other interfaces **Software modifications or modules required on host LIS to interface**	SMS, Sunquest, McKessonHBOC, IBAX, ALG, IDX, TDS, others no	CCA, Antrim/Sunquest, Meditech, CSS no
POPMS*** used to transfer patient demographics/billing info. to POLL system	—	—
Can one PO simultaneously support or interface to many host labs? **Test directory on PO system?/PO system can store many labs' directories at once?** **How results are returned to PO**	yes no/yes individually segmented fields	yes block of text
Data interface standards supported/System supports LOINC? **System architecture or functionality**	HL7, custom when required/yes standard Web browsers	HL7/no —
Patient order and result database maintained on local PC? **Online connections between PO and central or host system**	no virtual private network, dial-up telephone modem, public Internet connection, leased line	no virtual private network, public Internet connection
Complete ASP solution for POLL software? **Method of charging for ASP service** **Client software required** **ASP information conduit** **Client contracts supported from data center not operated by client** **How data center is operated**	yes fixed fee browser-based operates over Internet 2 by a third-party	yes transaction-based browser-based operates over Internet all by vendor
Features (listed as percentage of live installs or whether or not it's available) **• Order entry** 　- Medicare compliance checking using carrier-specific rules 　- Advanced beneficiary notice printed if medical necessity criteria not met 　- Local medical review policies can be viewed 　- Automatic routing of an order to different labs according to payer rules 　- Printing of lab's requisitions/Printing of requisitions for other lab providers 　- Duplicate order checking/Physician office-specific panels **• Electronic order entry (from PO to host)** 　- Transfer of patient demographics/insurance 　- Automatic handling of scheduled/standing orders 　- Automatic routing of orders to hospital/commercial labs depending on payer rules **• Bar-code collection label printing** **• Result receipt** 　- Stored as a block of text 　- All items (result, reference range, units) stored as individual data elements 　- Automatic parsing of report pages to extract results 　- Inquiry mode that allows PO to check status of specimens with host **• Reporting** 　- In exact format received from host lab/Cumulative 　- Integration of host and PO lab results 　- Display of new results for patient and/or clinic 　- Remote access available to on-call physicians **• User-defined rule-based system and alerts in PO module** **• Electronic transfer of data to another PO** **• PO orders supplies from host lab/Specimen pickup or courier requests to host lab** **• Other functionality** 　- Billing/collections/accounts receivable 　- Electronic claims transfer/Electronic medical record 　- Interfaces to PO lab instruments/Interfaces to billing systems	 available but not installed available but not installed available but not installed available but not installed available but not installed/available but not installed available but not installed/available but not installed available but not installed available but not installed available but not installed available but not installed available but not installed 100% 100% 100% 100% 100%/100% 100% 100% 100% available but not installed 100% available but not installed/available but not installed not available available but not installed/100% not available/available but not installed	 — — — — — — — — — — — 100% not available — not available 100%/not available not available 100% 100% — — — — — —
Length of time results are maintained online in PO system **Length of time copy of original report can be reproduced by system** **Data from system put in electronic archive?/Index to archive maintained online?**	indefinitely indefinitely yes/yes	30 days varies yes/no
System priced on a cost-per-transaction basis? **Cost (hardware/one-time software license fee/mo. lic. fee/implement. fee/mo. maintenance)** **• Smallest system for host lab:largest system for host lab** **• Smallest system for PO:largest system for PO** **Extra license fee due for each additional PO?/For increments of Nos. of POs?** **Extra license fee for each addt'l workstation at PO?/Fee based on No. of phys. of record?**	no — — — —	yes (dependent on volume) — — no/no no/no
Distinguishing features (supplied by vendor)	• proven reliability, scalability, and rapid deployment • Web-based; integrates any LIS and legacy system • fully customizable; very cost-effective	• PDF generation of reports and forms • auto-print of results—unattended operation • quick and simple to use

*PO=physician's office
**other=sales, marketing, administration, other company functions
***POPMS=physician office practice management systems

Tabulation does not represent an endorsement by the College of American Pathologists

Physician office-laboratory links software

Part 7 of 7 See accompanying article on page 68	Specialty Laboratories **Jack Redding** jredding@specialtylabs.com 2211 Michigan Ave. Santa Monica, CA 90404 310-828-6543 www.specialtylabs.com	Telcor Inc. **Michelle Sander** michelles@telcorinc.com 1560 S. 70th St. Lincoln, NE 68506 402-489-1207 www.telcorinc.com
Name of POLL software/system	Outreach Express	Quick-Req
First/most recent installation of software/system No. of host lab contracts signed by 2/1/01 but not yet operational No. of contracts signed between 2/1/00 and 2/1/01 Where software was developed	1998/2001 5 10 USA	1997/2001 0 2 USA
No. of host or central labs using software clinically/No. of satellite locations installed No. of host labs that electronically transfer orders from PO* to LIS Staff to develop-install-support-other** in entire firm/in POLL division	10/1,625 1 24-8-22-738/8-4-6-0	5/100 0 8-5-8-2/2-1-2-0
Hardware (in addition to LIS) required in central lab?/Type and operating system Specialized hardware in central lab facility Software programming language, other tools or products used or integrated Database of patient orders and results housed outside client lab or PO?	no/Compaq Proliant servers, Windows NT RAID Array-disk storage Windows NT, MS SQL server 7.0, Data Passport II, others always	yes/IBM-compatible PC w/ Windows 95, 98, NT, 2000 PDF 417 decoded bar-code scanner none never
Hardware type and operating system used in PO Specialized hardware used in PO Programming language, other tools or products used or integrated in PO Average time to install, build files, train office staff in a typical PO	Intel-based PC, Windows 95, 98, NT, 2000 — MS Internet Explorer 4.0 or higher 2 hrs	IBM-compatible PC w/windows 95, 98, NT, 2000 — none 4 hrs
LIS, HIS, and other interfaces Software modifications or modules required on host LIS to interface	Triple G, Cerner, McKesson HBOC, MEDITECH, Sunquest, Soft, STS no	OpenLab no (entry is via scan of two-dimensional bar code)
POPMS*** used to transfer patient demographics/billing info. to POLL system	prefer one-time upload	—
Can one PO simultaneously support or interface to many host labs? Test directory on PO system?/PO system can store many labs' directories at once? How results are returned to PO	yes no/yes block of text or individually segmented fields	no yes/no —
Data interface standards supported/System supports LOINC? System architecture or functionality	ASTM 1238, HL7, custom when required, microscript/terminal capture/no standard Web browsers	HL7, PDF bar-code scan/no thick client PC (for select functions)
Patient order and result database maintained on local PC? Online connections between PO and central or host system	no virtual private network, dial-up telephone modem, public Internet connection, leased line, DSL, cable modem, Sprint Broadband, satellite	no online connection available
Complete ASP solution for POLL software? Method of charging for ASP service Client software required ASP information conduit Client contracts supported from data center not operated by client How data center is operated	yes fixed fee browser-based operates over Internet 9 by a third-party (Exodus)	no — — — — —

Features (listed as percentage of live installs or whether or not it's available)
• Order entry
  - Medicare compliance checking using carrier-specific rules
  - Advanced beneficiary notice printed if medical necessity criteria not met
  - Local medical review policies can be viewed
  - Automatic routing of an order to different labs according to payer rules
  - Printing of lab's requisitions/Printing of requisitions for other lab providers
  - Duplicate order checking/Physician office-specific panels
• Electronic order entry (from PO to host)
  - Transfer of patient demographics/insurance
  - Automatic handling of scheduled/standing orders
  - Automatic routing of orders to hospital/commercial labs depending on payer rules
• Bar-code collection label printing
• Result receipt
  - Stored as a block of text
  - All items (result, reference range, units) stored as individual data elements
  - Automatic parsing of report pages to extract results
  - Inquiry mode that allows PO to check status of specimens with host
• Reporting
  - In exact format received from host lab/Cumulative
  - Integration of host and PO lab results
  - Display of new results for patient and/or clinic
  - Remote access available to on-call physicians
• User-defined rule-based system and alerts in PO module
• Electronic transfer of data to another PO
• PO orders supplies from host lab/Specimen pickup or courier requests to host lab
• Other functionality
  - Billing/collections/accounts receivable
  - Electronic claims transfer/Electronic medical record
  - Interfaces to PO lab instruments/Interfaces to billing systems
	
	100%
	100%
	100%
	50%
	100%/50%
	100%/100%
	—
	100%
	not available (for standing orders)
	50%
	100%
	
	available but not installed
	100%
	5%
	100%
	
	100%/100%
	not available
	100%
	100%
	not available
	100%
	100%/100%
	
	100%
	available 4th quarter 2001/available 4th quarter 2001
	available 4th quarter 2001/100%
		
		100%
		100%
		100%
		not available
		100%/not available
		not available/100%
		not available
		20% via bar-code scan
		not available
		not available
		80%
		
		not available
		not available
		not available
		not available
		
		not available/not available
		not available
		not available
		not available
		not available
		not available
		100%/100%
		
		not available
		not available/not available
		not available/not available

Length of time results are maintained online in PO system Length of time copy of original report can be reproduced by system Data from system put in electronic archive?/Index to archive maintained online?	maintained on central database indefinitely no/yes	— — yes/no
System priced on a cost-per-transaction basis? Cost (hardware/one-time software license fee/mo. lic. fee/implement. fee/mo. maintenance) • Smallest system for host lab:largest system for host lab • Smallest system for PO:largest system for PO Extra license fee due for each additional PO?/For increments of Nos. of POs? Extra license fee for each addt'l workstation at PO?/Fee based on No. of phys. of record?	no $0/$15k/$6k/—/—:$15k/$15k/$6k/—/— $0 no/no no/no	no $1.2k*/$4.9k/—/$0–$.075k:$—/$4.9k/—/—/$0–$.075k use existing equipment/$.5k/—/—/—:—/—/—/—/— yes/no yes/no
Distinguishing features (supplied by vendor) *PO=physician's office **other=sales, marketing, administration, other company functions ***POPMS=physician office practice management systems	• Web-based product functional on the Internet for almost four years • product branded to host hospital laboratory • system designed by a reference lab for hospitals and labs	• simple and easy to use • low-cost compliance system • easy import/export of configuration changes *excluding scanner

Tabulation does not represent an endorsement by the College of American Pathologists